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The Role of Dissociation and Hyperarousal in Adult Sexual Revictimization

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THE ROLE OF DISSOCIATION AND HYPERAROUSAL IN ADULT SEXUAL REVICTIMIZATION

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ABSTRACT

The purpose of the present study was to examine how child sexual abuse (CSA), hyperarousal symptoms, and dissociation symptoms are associated with sexual revictimization in adulthood. The study hypothesized that (A) a history of CSA will be associated with greater instances of adult sexual victimization, (B) higher rates of hyperarousal will be associated with lower rates of adult sexual revictimization in survivors of CSA, (C) higher rates of dissociation will be associated with higher rates of adult sexual revictimization in survivors of CSA, and (D) in looking at both hyperarousal and dissociation, hyperarousal symptoms will buffer the relationship between CSA and sexual revictimization, whereas dissociation will exacerbate this relationship. The study provided support for the relationship between CSA and ASV in line with previous findings. Hyperarousal symptoms were associated with greater instances of ASV overall; however, they did not moderate the relationship between CSA and ASV. This may be in part due to while those with hyperarousal symptoms may be able to recognize risk, they may less able to accurately respond to credible threats. Further, there was no support for hypothesis three, as dissociative symptoms were not associated with ASV overall and did not moderate the relationship between CSA and ASV. Finally, there was no support for hypothesis four, as the moderating variables for hyperarousal, dissociation, and the three-way interaction of CSA, hyperarousal, and dissociation were all insignificant.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

CHAPTER I

INTRODUCTION

Approximately 20% of women in the U.S. are sexually victimized within their lifetime including victimization experiences in childhood (Breiding et al., 2011). This includes child sexual abuse (CSA), a phenomenon that affects 7.5-11.7% of all children in the United States and 10.7z-17.4% of girls (Townsend & Rheingold, 2013). CSA is considered a long-term health hazard and has been associated with numerous ill-effects that span all the way to adulthood including depression, posttraumatic stress disorder (PTSD), low self-esteem, shame, and an increased risk for sexual victimization in adulthood (Browne & Finkelhor, 1986; Feiring & Taska, 2002; Gold, Sinclair, & Balge, 1999). For example, multiple studies have shown that women with a history of CSA are at an increased risk for adult sexual victimization (ASV) (Finkelhor, 1997; Siegel & Williams, 2003). However, this link between CSA and revictimization is believed to be caused by a variety of indirect factors, rather than a direct relationship (Muehlenhard, Highby, Lee, Bryan, & Dodrill, 1998). By identifying and intervening with these risk factors, hopefully the risk of revictimization for victims of CSA will be diminished. There is a plethora of research available on the environmental risk factors for adult victimization in CSA survivors, namely the abuse itself, alcohol use, risky sexual behavior, and liberal sexual attitudes (Gold, Sinclair, Balge, 1999; Fargo, 2009).

Although several situational risk factors for adult victimization have been identified, there has been very little research done in the role specific symptom clusters of PTSD play in adult victimization for CSA survivors. Due the high prevalence of PTSD symptoms and dissociation in women who experience CSA it is important to identify which symptoms may increase the risk of victimization (Boisvert, Lancot, & Lemieux, 2016; McLeer, Deblinger, Henry, & Orvaschel, 1992; Sillberg, 2000). Therefore, this study asks: What role does differing PTSD symptomatology play in adult revictimization of survivors of CSA?

CHAPTER II

LITERATURE REVIEW

2.1 Child Sexual Abuse

Much of the variability in the research about CSA is due largely to the different definitions used to define it (Muehlenhard et al., 1998; Mayall & Gold, 1995; Townsend & Rheingold, 2013; Wyatt & Peters, 1986). Some studies define child sexual abuse as including both contact and noncontact sexual behaviors, such as exhibitionism (Finkelhor, 1997; Fromuth, 1986; Wyatt & Peters, 1986), where other studies have defined it as only involving contact sexual behaviors, such molestation (Alexander & Lupfer, 1987; Briere & Runtz, 1987; Russel, 1986; Wyatt & Peters, 1986). Further, the age difference between the child and the perpetrator ranges from three to seven years (Gold, 1995). For the purpose of the study, CSA victimization is defined as sexual contact (i.e., touching/fondling of genitals, sexual penetration, and/or self-exposure/exposure to pornography) of a child under the age of 17 by post-pubescent person at least five years older than the child if under the age of 12 and 10 years older than the child if the child is over the age of 12 (Messman & Long, 1996; Mayall & Gold, 1995). CSA is associated with high risk sexual behaviors, sexual revictimization in adulthood, depression, PTSD and dissociative symptoms (Trickett, Noll, & Putnam, 2011). Thus, research examining

pathways of CSA to adult sexual revictimization are critical to preventing further victimization and the development of further disorders.

2.2 Revictimization

Similarly, definitions for adult sexual victimization (ASV) also vary. For the purpose of this study, ASV is defined as unwanted or forced sexual contact (i.e., touching/fondling of genitals and/or sexual penetration) of an adult over the age of 17 that the victim refuses or is unable to consent to. Adult sexual victimization experiences carry similar consequences to CSA, including anxiety, depression, fear, PTSD, and sexual dysfunction; however, for a majority of women these return to pre-assault levels within a year (Ellis, 1983; Steketee & Foa, 1987; Walsh, Danielson, McCauley, 2012). Sexual revictimization refers to two or more sexual victimization experiences (as defined above) in separate periods across the lifespan (Messman & Long, 1996). Some estimate that 15-72% of women who experience CSA are sexually revictimized within their lifetime (Messman & Long, 1995). This number varies due to the different methodologies examining CSA mentioned previously and a lack in reporting victimization experiences both in childhood and adulthood.

Revictimization experiences are especially damaging as victimization experiences are cumulative in nature and multiple victimization experiences leave longer and more persistent psychological and physical issues compared to singular victimization experiences (Messman-Moore & Long, 2000; Messman-Moore, Long, & Siegfried, 2000; Walsh et al., 2012). Thus, more research into explanatory variables for sexual revictimization in CSA survivors is needed, so that interventions may be implemented to target those variables. Multiple victimization experiences carry with them an increased risk for psychopathology, including posttraumatic stress disorder

(Boisvert, Lancot, & Lemieux, 2016; McLeer, Deblinger, Henry, & Orvaschel, 1992; Ullman & Peter-Hagene, 2014; Walsh et al., 2012).

2.3 Posttraumatic Stress Disorder

Survivors of child sexual abuse are at high risk of experiencing psychopathology in adulthood including posttraumatic stress disorder (PTSD) (Boisvert, Lancot, & Lemieux, 2016; McLeer, Deblinger, Henry, & Orvaschel, 1992). PTSD is characterized by reliving a distressing experience, avoidance of distressing stimuli, increasing in negative thoughts or feelings, and changes in arousal following the experience, witnessing, or learning of a traumatic event (American Psychiatric Association (APA), 2013). Not only are PTSD symptoms distressing but have been associated with associated with higher rates of sexual victimization, especially in those who have a history of CSA (Messman-Moore, Ward, & Brown, 2009; Risser, Hetzel-Riggin, Thomsen, & McCanne, 2006; Yeater, Hoyt, Leiting, & Lopez, 2016). For example, one study found that PTSD symptomatology predicted rape at an 8-month follow-up of survivors of childhood abuse along with various situational risk factors such as substance use and risky sexual behavior (Messman-Moore, Ward, & Brown, 2009). Further, Yeater and colleagues (2016) found that increased levels of PTSD symptomatology decreased a participant's ability to effectively respond to vignettes describing sexual assault victimization. Further, Littleton & Ullman (2013) found that PTSD symptomatology was not only associated with higher rates of sexual revictimization in CSA survivors, but also behavioral risk factors for sexual revictimization (i.e., drinking, risky sexual behavior).

However, Wilson, Calhoun, and Bernat (1999) found that high arousal-related symptoms associated with PTSD might actually serve as a buffering effect against further revictimization. In a study of victims and nonvictims of sexual assault, Wilson

and colleagues (1999) found that women who had arousal-related PTSD symptoms had similar response latencies to a sexual assault vignette to nonvictims and performed significantly better than victims without hyperarousal symptoms at identifying sexual assault risk quickly. Additionally, Volkert and colleagues (2013) found that people with multiple revictimization experiences and lower arousal ratings had a higher susceptibility to boredom and sensation seeking, and in turn were more likely to be exposed to riskier situations increasing their risk for sexual victimization. Further, studies have found that women with PTSD symptomatology have poorer ability to recognize risk and respond to it which may increase their chances of sexual assault (Yeater et al., 2016). This suggests that PTSD symptoms increase the risk of sexual revictimization in victims of sexual assault, whereas hyperarousal symptoms may decrease this risk.

Although PTSD symptoms have shown increased risk for sexual victimization, the differing roles of symptomatology have been debated. Soler-Baillo, Marx, and Sloan (2005) suggested symptom differences in PTSD, such as hyperarousal and dissociation, between victims and non-victims of sexual assault may either impair or improve their risk recognition abilities and thus increase or decrease this risk of sexual revictimization. Moreover, Bremner (1999) found that the presence of hyperarousal symptoms and dissociative symptoms predicted the development of chronic PTSD (Bremner & Brett, 1997; Bremner, Southwick, Brett, Fontana, Rosenheck, & Charney, 1999; Marmar et al., 1992; Koopman, Classen, & Spiegel, 1994; Shalev, Peri, Canetti, Schreiber, 1996). Bremner (1999) suggested classifying acute trauma responses into two subtypes: one as primarily intrusive/hyperarousal and one primarily dissociative. Soler-Baillo and colleagues (2005) and Bremner (1999)

both suggest that dissociation and hyperarousal, although both related to trauma, may have differential outcomes.

2.4 Hyperarousal

Hyperarousal refers to a cluster (E) of posttraumatic symptoms characterized by increased physiological responses to stimuli (e.g., sweating, increased heart rate), hypervigilance, and an increased startle response (APA, 2013; King, King, Leskin, & Weathers, 1997). Hyperarousal symptoms can be very distressing causing increased anxiety, insomnia, difficulty concentrating, poorer impulse control, and irritability (APA, 2013). Hyperarousal, along with many other PTSD symptoms, are common in children who have experienced trauma, especially CSA (Kendall-Tackett, 2000). For example, one study found that hyperarousal symptoms were more present in children who had experienced sexual abuse than children who had orthopedic problems and children without a history of trauma (Trembley, Hébert, & Piché, 2000). Wilson and colleagues (1999) found that hyperarousal symptoms were associated with better risk recognition when evaluating audiotaped vignettes when compared to those with dissociative symptoms and controls. They proposed that hyperarousal symptoms may improve risk recognition and serve as a buffer to revictimization due to increased fight or flight responses when presented with risk. Further, neuroimaging studies comparing psychologically healthy, dissociative, and reexperiencing/hyper-aroused subjects support this theory (Frewen & Lanius, 2006). For example, neuroimaging studies by Lanius et al., (2001) and Lanius et al., (2005) found increased heart rate and reduced responses in the medial prefrontal cortex (PFC), responsible for planning and decision making, and the anterior cingulate cortex (ACC) of those with hyperarousal compared to control subjects when presented with trauma-related imagery (Frewen & Lanius, 2006). Decreases in these features are associated with

increased amygdala response and less control over fight or flight responses, thus leading to greater defensive flight responses (Frewen & Lanius, 2006; Lanius et al., 2001; 2005). Contrarily, a study by Risser and colleagues (2006) found that hyperarousal was the only PTSD symptom cluster that predicted increased ASV severity in survivors of CSA through impairment of the ability to discriminate between credible threats (Becker-Lausen, Sanders, & Chinsky, 1995).

However, prevalence and severity of sexual assault are not the same and it could be argued that increased arousal could exacerbate the attack through resistance. For example, Layman and colleagues (1996) found that in a study of women who conceptualized their sexual assault experiences as rape were associated with more forceful resistance of the attack and increased hyperarousal symptoms of PTSD. Although studies have linked PTSD symptomatology to an increased risk of victimization, there is a dearth of research in the role hyperarousal plays in that relationship. Understanding the role hyperarousal plays in the relationship between PTSD and victimization will better inform treatment of those diagnosed with PTSD.

2.5 Dissociation

Within recent years, a dissociative subtype of PTSD was added to the DSM-5 (APA, 2013). Dissociation refers to a subtype of PTSD characterized by feelings of depersonalization and derealization (APA, 2013). Depersonalization refers to experiences of unreality or detachment from one's mind, self, or body (APA, 2013). Derealization refers to experiences of unreality or detachment from one's surroundings (APA, 2013). Dissociation is common after trauma and is thought of as a coping strategy used to reduce overwhelming anxiety in stressful situations (Silberg, 2000). Adult victims with a history of sexual abuse had significantly higher and more persistent dissociative symptoms of PTSD than victims without the history of sexual

abuse (Briere & Runtz, 1988; Dancu et al., 1996). For example, one study found that in a sample of sexually abused children, 22% experienced dissociative symptoms, higher than both and orthopedic stress group and control group (Trembley, Hébert, Piché, 2000).

Cloittre (1998) argued that dissociative symptoms would impair appropriate flight-or-flight responses and decrease sensitivity to potential environmental risks, thus causing an increased risk for sexual victimization. Neuroimaging studies comparing psychologically healthy, dissociative, and reexperiencing/hyper-aroused subjects supports this theory (Frewen & Lanius, 2006). For example, neuroimaging and studies by Lanius and colleagues (2001 & 2005) found increased heart rate and increased responses in the medial prefrontal cortex (PFC), anterior cingulate cortex (ACC), and inferior frontal gyrus in patients who endorsed dissociative symptoms compared to both hyperarousal and control groups. Increase in these features are associated with decreased amygdala response and inhibition of affective affect arousal, which may impair fight or flight responses in the presence of danger (Frewen & Lanius, 2006; Lanius et al., 2001, 2005).

Studies have found that dissociative symptoms have been linked to increased risk for sexual victimization (Bockers, Roepke, Michael, Renneberg, & Knaevelsrud, 2014; Breintenbecher, 2001). For example, Bockers et al. (2014) found that pathological dissociation was able to distinguish between revictimized individuals and non-victimized controls and predicted the likelihood of revictimization. Further, Iverson and colleagues found (2013) that higher levels of dissociation in survivors of IPV were associated with higher sexual and physical victimization experiences in a six-month follow-up. However, a study by Kessler & Bieschke (1999) found that dissociation did not predict ASV in CSA survivors. Although dissociation's role in

affecting the relationship between CSA and ASV has moderate support in extant literature, it has not been compared against other PTSD symptoms, namely hyperarousal.

2.6 Emerging Adulthood

This study examined females between the age of 18 to 25. This demographic was chosen due to the extant research on the theory of emerging adulthood. This theory, that has expanded over the past century, refers to the period of transition between 18 to 25 that is characterized by change, new possibilities, reflection, and exploration (Arnett, 2000). Individuals in this age group are characterized as not quite being adults but no longer being adolescents (Hall et al., 2006). This transitional period is associated with numerous life changes including moving out of one's parents' home, changes in life goals, changes in romantic attachments, and college for some. Although this period is associated with self-discovery and self-focus, it is also associated with an increased risk for sexual abuse perpetration and victimization due to increased risk-taking behaviors, such as excessive drinking and risky sexual behaviors (Arnett, 2000; Fisher, Cullen, & Turner, 2000; Clodfelter, Turner, Hartman, & Kuhns, 2008). Further, the relationship between emerging adulthood and sexually risky behaviors was exacerbated when previous victimization experiences, such as CSA, were taken into account (Littleton, Grills, & Drum, 2014). Thus, looking into factors related to revictimization in this demographic is crucial in preventing sexual assault.

2.7 Present Study

The purpose of this study is to examine what roles different PTSD symptomatology, namely hyperarousal and dissociation play in the relationship between CSA and adult sexual revictimization. Although studies have supported the

relationship between CSA and adult revictimization few studies have looked at the role hyperarousal and dissociative symptoms of PTSD play in moderating this relationship. This study posits the following hypotheses: (A) a history of CSA will be associated with greater instances of adult sexual victimization (B) higher rates of hyperarousal will be associated with lower rates of adult sexual revictimization in survivors of CSA, (C) higher rates of dissociation will be associated with higher rates of adult sexual revictimization in survivors of CSA, and (D) in looking at both hyperarousal and dissociation, hyperarousal symptoms will buffer the relationship between CSA and sexual revictimization, whereas dissociation will exacerbate this relationship.

CHAPTER III

METHODOLOGY

3.1 Participants

This study was approved by the Institutional Review Board (IRB) of Cleveland State University on December 21, 2018. Participants were recruited via flyers posted on Cleveland State University, social media posts (i.e., Facebook, Tumblr, Reddit), online forums where flyer or ads can be posted for free (Research Match), and through the Cleveland State psychology research pool through the SONA system. Data were collected from an online survey assessing victimization experiences, PTSD symptomatology, and dissociation. Participants were not given compensation for participation. Participants were offered the option to enter a raffle for one of two $50 Amazon gift cards upon completion of the survey. Participants who completed the survey through SONA, received a half credit towards psychology courses.

A total of 383 respondents completed the survey. After filtering for participants with missing variables for CSA, ASV, hyperarousal, and dissociation, participants consisted of N=178 (M= 21.23, SD= 2.28) young adult females aged 18-25. Participants were categorized into equal two groups: CSA and non-CSA victimization groups. From those two groups, participants will be classified as non-victimized, ASV-only, CSA-only, and revictimized. The non-victimized group

consisted of n=64 participants, the ASV-only group consisted of n=26 participants, the CSA-only group consisted of n= 45 participants, and the revictimized group consisted of n=43 participants.

3.2 Measures

3.2.1 Demographic information. Basic demographic data were collected on age, educational status, race/ethnicity, and gender. (Appendix A)

3.2.2 Sexual victimization. This study measured both childhood and adult victimization dichotomously through three "yes" or "no" questions. The first question measured lifetime victimization asking: "Have you ever experienced unwanted or forced sexual contact (i.e., touching/fondling of genitals and/or sexual-penetration) that you have refused or been unable to consent to?" If the participants responded no to question one, then they were redirected to the next part of the of the questionnaire, measuring hyperarousal. The second question measured CSA, asking: "Before the age of 18, have you ever experienced unwanted or forced sexual contact (i.e., touching/fondling of genitals and/or sexual-penetration) that you have refused or been unable to consent to?" In order to differentiate victimization experiences in childhood and adolescence, there were two questions asking about the first age of victimization, the last age of victimization, and the age of the perpetrator at both first and last ages of victimization. Further, in order to measure confounding variables, follow-up questions inquired about approximately how many victimization experiences occurred within this point in their lifespan. The third question measured ASV asking: "After the age of 18, have you experienced unwanted or forced sexual contact (i.e., touching/fondling of genitals and/or sexual penetration) that you have refused or have been unable to consent to?" In order to control for confounding variables, such as multiple victimization experiences or recent victimization experiences, the age of

first and last victimization in adulthood and the approximate number of victimization experiences were also asked.

These three questions assessed victimization experiences across the lifespan and broke participants up into four groups: non-victimized, ASV-only, CSA-only, and revictimized. Non-victimized group membership indicates no history of victimization across the lifespan, ASV-only group membership indicates a history of victimization only in adulthood (18+), CSA-only group membership indicates a history of victimization only in childhood (0-17), and revictimization group membership indicates a history of victimization in both childhood and adulthood. Positive responses to question indicated there is a history of victimization across the lifespan, whereas negative responses indicated no history of victimization. Question two assessed CSA as defined by Messman-Moore and Long (2000). Positive responses to questions two indicated a history of CSA, whereas negative responses indicated no history of CSA. Question three assessed ASV. Positive responses to question three indicated a history of ASV, whereas negative responses to question three indicate no history of ASV. A negative response to question one indicates non-victimized group membership and recorded in an additional variable called "victimization", indicating whether a history of victimization is present or absent. A positive response to question three but not question two indicated ASV-only group membership. A positive response to question two, but not question three indicated a history of CSA-only group membership. Positive responses to questions two and three indicated a history of adult sexual revictimization using the criteria as defined by Messman & Long (1996) and coded as "revictimization", indicating whether a history of revictimization is present or absent.

Due to a lack of respondent specificity in quantity of victimization experiences, precise numbers for cumulative victimization experiences for both CSA and ASV was difficult to ascertain from the data. However, using ranges based on respondent estimations of cumulative victimization experiences, cumulative victimization was able to be calculated into ordinal categories. Those without history of CSA or ASV were coded as a 0. Those with a singular experience of CSA or ASV were coded as a 1. Those with 2-5 victimization experiences of CSA or ASV were coded as a 2. Those with 6-10 victimization experiences of CSA or ASV were coded as a 3. Those with 11-20 victimization experiences of CSA or ASV were coded as a 4. Those with 21-50 victimization experiences of CSA or ASV were coded as a 5. Those with 51-99 victimization experiences of CSA or ASV were coded as a 6. Those with greater than 100 victimization experiences were coded as a 7. Those who had too many CSA or ASV victimization experiences to keep count of were coded as an 8. Finally, participants who were unsure of how many CSA or ASV victimization experiences they've had and missing data were coded as a 9. This variable was named "cumulative victimization" and was excluded from the logistic regression analyses due to redundancy.

3.2.3 PTSD and hyperarousal. The Posttraumatic Stress Disorder Checklist for the *DSM-5* (PCL-5) was used to measure symptoms of PTSD. The PCL-5 is a self-report measure that assesses the DSM-5 symptoms for PTSD (Weathers et al., 2013). The PCL-5 is used in order to make a provisional PTSD diagnosis, screening for PTSD, and monitoring symptom change before and after treatment (Weathers et al., 2013). Symptoms are rated on a five-point Likert scale ranging from "Not at all" (0) to "Extremely" (4) with a score of 33-points being used as a general cut off point (Weathers et al., 2013). The PCL-5 assessed symptoms within the past month.

The psychometric properties of the PCL-5 are all adequate (Bovin et al., 2016). The PCL-5 demonstrates good internal consistency (α= .96) (Bovin et al., 2016). Further, the test-retest reliability (*r* = .84) was good. The PCL-5 also demonstrates good convergent and discriminant validity, including a good correlation with the PTSD Checklist for the *DSM-IV* (*r* = .87) (Bovin et al., 2016). The PCL-5 has five subscales: intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity (Sveen, Bondjers, & Willebrand, 2016; Weathers et al., 2013). Hyperarousal was measured using the fourth subscale: alterations in arousal and reactivity. The internal consistency (α= .77) and test-retest reliability (*r* = .77, *p* < .001) of alterations in arousal and reactivity was good (Sveen, Bondjers, & Willebrand, 2016). The alterations in arousal and reactivity adequately correlated with the Impact of Event Scale- Revised's (IES-R) hyperarousal subscale (*r* = .62, *p* <.01) (Sveen, Bondjers, & Willebrand, 2016).

3.2.4 Dissociation. Dissociation was additionally measured with the Dissociation Experiences Scale – II (DES-II). This 28-item self-report scale reflects severity of psychological dissociation, addressing frequency of experiences of amnesia, absorption, and depersonalization/derealization. Each item is rated on a 0%-100% scale, and the individual's score (range = 0-100) is the mean score of the 28 items. Higher scores indicate greater levels of psychological dissociation.

The DES-II has a high internal consistency with both men and women (α= .95) and the test-retest reliability is good (Bernstein & Putnam, 1994). The DES-II displays adequate construct validity and discriminant validity (r= .63) (Condon & Lynn, 2014). Moreover, the DES-II has a sensitivity of 76% for dissociative disorders (Carlson et al., 1993). Additionally, in the DES-II is adequately correlated with trauma, a theoretically relevant variable, and exhibits meta-analytic summed effects

ranging from r= .27 - .34 dependent on the type of trauma (Dalenberg et al., 2012). However, Patihis & Lynn (2017) found lower values for the relationship between the DES-II and trauma. Further, the DES-II exhibited adequate validity in identifying frequency and different types of dissociative symptoms, including detachment and compartmentalization (Mazotti et al., 2016).

3.3 Analysis Plan

Power was determined with G*Power analysis using an effect size found in comparable studies on sexual revictimization in females (Desai et al., 2002; Werner et al., 2016). Based off of this power analysis, it was important that there were 76 participants with a history of CSA and 76 participants without a history of CSA.the study collected 76 participants with a history of CSA and 76 participants without a history of CSA.

3.3.1 Hypothesis 1. A binary logistic regression was implemented in order to test the relationship between CSA and ASV with CSA as a dichotomous predictor variable and ASV as a dichotomous outcome variable, controlling for the cofounding variable of age as determined by a prior bivariate correlational analysis pictured in Table 4.2.

3.3.2 Hypothesis 2. In order to test the effect hyperarousal has on the relationship between CSA and ASV, a binary logistic regression was performed with CSA as the dichotomous predictor variable, ASV as the dichotomous outcome variable, and hyperarousal as the continuous moderating variable, controlling for the cofounding variable of age as determined by a prior bivariate correlational analysis as pictured in Table 4.2. In order to create the two-way interaction variable, the standardized Z-scores of CSA and hyperarousal were multiplied and computed into a

single variable. Moderation was chosen in order to test the strength of the effect of hyperarousal on the relationship between CSA and ASV.

3.3.3 Hypothesis 3. In order to test the effect dissociation has on the relationship between CSA and ASV, a logistic regression was performed with CSA as a dichotomous predictor variable, ASV as the dichotomous outcome variable, and dissociation as the continuous moderating variable, controlling for the cofounding variable of age as determined by a prior bivariate correlational analysis pictured in Table 4.2. In order to create the two-way interaction variable, the standardized Z-scores of CSA and dissociation were multiplied and computed into a single variable. Moderation analysis was chosen in order to test the strength of the effect dissociation of on the relationship between CSA and ASV.

3.3.4 Hypothesis 4. In order to test the effect of both hyperarousal and dissociation has on the relationship between CSA and ASV, a logistic regression was performed with CSA as a dichotomous predictor variable, ASV as the dichotomous outcome variable, and a three-way interaction variable consisting of CSA, hyperarousal, and dissociation, controlling for the cofounding variable of age as determined by a prior bivariate correlational analysis pictured in Table 4.2. In order to create the three-way interaction variable, the standardized Z-scores of CSA, hyperarousal, and dissociation were multiplied and computed into a single variable. Moderation analysis was chosen in order to test the strength of the effect of both hyperarousal and dissociation of on the relationship between CSA and ASV.

CHAPTER IV

RESULTS

4.1 Descriptive Statistics

One hundred seventy-eight women (*M*=21.23, *SD*= 2.28) aged 18-25 were available for analysis. 36.0% of participants (n= 64) belonged to the non-victimized group, 14.6% of participants (N =26) belonged to the ASV-only group, 25.3% of participants (N= 45) belonged to the CSA-only group, and 24.1% of participants (N= 43) belonged to the revictimized group. Descriptions of participants' demographic information, educational history, victimization experiences, and mean scores for hyperarousal and dissociation can be found in Table 4.1. Range for the age of first CSA experience was 2-17, the range for age of last CSA experience was 3-17, range for the age of first ASV experience was 18-25, and the range the age of last ASV experience was 18-25.

Table 4.1
Demographics, Victimization History, and PTSD Symptomatology in a Sample of Young Adult Females (N = 178)

Variable	Percentage
Demographic Information	
Age	*M*=21.23, *SD*= 2.28
Race	
White	78.2%
Black	4.5%
Asian	5.6%
Hispanic	7.3%
Multiracial/Other	4.5%
Educational Status	

Highschool/GED	2.2%
Some college, but no degree	19.6%
2-year college degree	41.3%
4-year college degree	5.6%
None of the above	2.8%
Victimization Experiences	
No victimization history	36.0%
Total CSA	49.4%
Total ASV	38.8%
CSA-only	25.3%
ASV-only	14.6%
Revictimization	24.1%
Number of CSA experiences	*M*=1.12, *SD*=1.56
Number of ASV experiences	*M*=.76, *SD*=1.27
Age of 1st CSA experience	*M*= 12.26, *SD*= 4.66
Age of last CSA experience	*M*= 16.42, *SD*= 4.15
Age of 1st ASV experience	*M*= 19.0, *SD*=1.89
Age of last ASV experience	*M*= 20.41, *SD*= 1.98
Symptoms	
Hyperarousal	*M*= 1.32, *SD*= 1.07
Dissociation	*M*= 2.17, *SD*= 1.72

4.2 Correlational Analyses

Bivariate correlations were performed among victimization status, demographic information, hyperarousal, dissociation, and other potential confounding variables, including number of victimization experiences and age of first and last victimization in both childhood and adulthood. Table 4.2 shows the correlation coefficient and significant values for the bivariate correlations performed. Victimization had a significant positive correlation with CSA ($r = .71$, $p < .001$), ASV ($r = .59$, $p < .001$), revictimization ($r = .43$, $p < .001$), age ($r = .19$, $p = .01$), cumulative victimization for CSA ($r = .54$, $p < .001$), cumulative victimization for ASV ($r = .44$, $p < .001$), dissociation ($r = .2$, $p < .01$), and hyperarousal ($r = .31$, $p < .001$). CSA had significant positive correlation with ASV ($r = .20$, $p < .001$), revictimization ($r = .71$, $p < .001$), cumulative experiences of CSA ($r = .74$, $p < .001$), dissociation ($r = .25$, $p = .001$), and hyperarousal ($r = .36$, $p < .001$). ASV had a significant positive correlation with revictimization ($r = .70$, $p < .001$), age ($r = .36$, p

< .001), cumulative experiences of CSA (r= .16, p < .001), cumulative experiences of ASV (r= .75, p < .001), and hyperarousal (r = .19, p = .01). Revictimization had a significant positive correlation with age (r = .24, p = .001), cumulative experiences of CSA (r = .24, p = .001), cumulative experiences of ASV (r = .45, p < .001), and hyperarousal (r = .24, p < .001). Dissociation was associated with age (r = -.16, p < .05), cumulative experiences of CSA (r = .23, p < .01), cumulative experiences of ASV (r = .17, p < .03), and hyperarousal (r = .68, p < .001). Hyperarousal was additionally positively correlated with cumulative experiences of CSA (r = .30, p < .001) and cumulative experiences of ASV (r = .25, p = .001). Age was controlled for in all subsequent models due to its significant correlation with CSA, ASV, and dissociation. Due to violations of multicollinearity, cumulative experiences of both CSA (VIF = 3.17) and ASV (VIF = 2.63), the first age of CSA (VIF = 7.71) and ASV (VIF = 5.72), and the last age of CSA (VIF = 7.94) and ASV (VIF = 7.01) were excluded from all subsequent models.

178 women (M=21.23, SD= 2.28) were available for analysis. 36.0% of participants (n= 64) belonged to the non-victimized group, 14.6% of participants (N =26) belonged to the ASV-only group, 25.3% of participants (N= 45) belonged to the CSA-only group, and 24.1% of participants (N= 43) belonged to the revictimized group. Evaluation of adequacy of expected frequencies for categorical demographic predictors no need to restrict model goodness of fit tests. No serious violation of linearity in the logit were observed.

4.3 Hypothesis 1

A test of the full model with CSA and age as predictors against a constant only model was statistically significant, $\chi^2(4, 178) = 31.56$, p < .001, indicating that the predictors, as a set, distinguished between women with and without experiences of

Table 4.2

Correlations Among Victimization Experiences, Age, Hyperarousal and Dissociation

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Victimization	-	.71*	.59*	.44*	.63*	.64*	.59*	.54*	.54*	.44*	.31*	.20*	.19*
2. CSA	-	-	.20*	.58*	.88*	.89*	.20*	.16*	.74*	.13	.36*	.25*	.04
3. ASV	-	-	-	.70*	.22*	.22*	.99*	.90*	.17*	.75*	.19*	.05	.36*
4. Revictimization	-	-	-	-	.56*	.56*	.69*	.62*	.45*	.51*	.24*	.10	.24*
5. Age of 1st CSA	-	-	-	-	-	.87*	.24*	.19*	.50*	.15*	.35*	.20*	.06
6. Age of last CSA	-	-	-	-	-	-	.20*	.23*	.72*	.20*	.40*	.25*	.01
7. Age of 1st ASV	-	-	-	-	-	-	-	.89*	.21*	.70*	.19*	.03	.39*
8. Age of last ASV	-	-	-	-	-	-	-	-	.18*	.78*	.27*	.12	.35*
9. Cumulative CSA	-	-	-	-	-	-	-	-	-	.17*	.30*	.23*	.03
10. Cumulative ASV	-	-	-	-	-	-	-	-	-	-	.25*	.17*	.27*
11. Hyperarousal	-	-	-	-	-	-	-	-	-	-	-	.68*	.07
12. Dissociation	-	-	-	-	-	-	-	-	-	-	-	-	-
13. Age	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: CSA is child sexual abuse, ASV is adult sexual victimization

$p < .05$, $p < .01$**

ASV. Table 4.3 shows regression coefficients, Wald Statistics, odds ratios, and 95% confidence intervals for odds ratios for each predictor. According to the Wald criterion, both age and CSA history were both positively related to ASV experiences, $\chi^2(1, 178) = 21.22$, $p < .001$ and $\chi^2(1, 178) = 7.28$, $p < .01$, respectively. The odds ratio for age, *OR* =1.44, odds are 95% CI [1.23, 1.68], indicates that there is a 44% increase in the odds of ASV experiences for any one-unit change in age. The odds ratio for CSA, *OR* = 2.51, odds are 95% CI [1.29, 4.88] indicates that there is a 151% increase in the odds of ASV experiences for any one-unit change in CSA.

Table 4.3
Logistic Regression Analysis of Age and CSA as Predictors

Predictors	*B*	Wald	*p*	Odds Ratio	95% Confidence Interval
Predicting ASV (N= 178)					
Age	.36	21.22	.000	1.44	1.23,1.68
CSA	.92	7.28	.007	2.51	1.29, 4.89

Note: CSA is child sexual abuse, ASV is adult sexual victimization

4.4 Hypothesis 2

A test of the full model with age, CSA, hyperarousal, and a two-way interaction variable consisting of CSA and hyperarousal as predictors against a constant only model was statistically significant $\chi^2(4, 178) = 35.7$, $p < .001$, indicating that as a whole CSA, age, and hyperarousal reliably distinguished between women with and without experiences of ASV. Table 4.4 shows regression coefficients, Wald Statistics, odds ratios, and 95% confidence intervals for odds ratios for each predictor. According to the Wald criterion, age and CSA history were positively related to ASV experiences, $\chi^2(1, 178) = 20.73$, $p < .001$, and $\chi^2(1, 178) = 4.13$, $p = .04$, respectively. Hyperarousal was marginally significantly related to ASV experiences, $\chi^2(1, 178) = 3.32$, $p < .07$. The odds ratio for age, *OR*= 1.44, 95% CI

[1.23, 1.69], indicates that there is a 44% increase in the odds of ASV experiences for any one-unit change of age. The odds ratio for CSA, *OR*= 2.09, odds are 95% CI [1.00, 4.24], indicates that there is a 109% increase in the odds of ASV experiences for any one-unit change of CSA. The odds ratio for hyperarousal, *OR*= 1.37, odds are 95% CI [0.98, 1.93] indicates that there is a 37% non-significant increase in the odds of ASV experiences for any one-unit change of hyperarousal. This supports that age and CSA history, are significantly related to ASV. Although hyperarousal trended towards significance, hyperarousal does not moderate the relationship between CSA and ASV.

Table 4.4
Logistic Regression Analysis of Age, CSA, Hyperarousal, and CSA-Hyperarousal Interaction Variable as Predictors

Predictors	*B*	Wald	*p*	Odds Ratio	95% Confidence Interval
Predicting ASV (N= 178)					
Age	.37	20.73	.000	1.44	1.23, 1.69
CSA	.74	4.13	.042	2.09	1.02, 4.24
Hyperarousal	.32	3.32	.068	1.37	.98, 1.93
CSAxxHyperarousal	-.23	1.56	.211	.79	.55, 1.14

Note: CSA is child sexual abuse, ASV is adult sexual victimization, and CSAxxHyperarousal is the interaction variable consisting of the standardized variables of CSA and hyperarousal

4.5 Hypothesis 3

A test of the full model with CSA, age, dissociation, and a two-way interaction variable consisting of CSA and dissociation as predictors against a constant only model was statistically significant, $\chi^2(4, 178) = 33.59$, $p < .001$, indicating that as a whole CSA, age, and dissociation reliably distinguished between women with and without experiences of ASV. Table 4.5 shows regression coefficients, Wald Statistics, odds ratios, and 95% confidence intervals for odds ratios for each predictor. According to the Wald criterion, age and CSA were positively related to ASV

experiences, $\chi^2(1, 178) = 18.25$, $p < .001$ and $\chi^2(1, 178) = 3.13$, $p < .02$, respectively. The odds ratio for age, *OR*= 1.46, odds are 95% CI [1.21, 1.69], indicates that there is a 46% increase in the odds of ASV experiences for any one-unit change in age. The odds ratio for CSA, *OR*= 2.32, odds are 95% CI [1.17, 4.62] indicates that there is a 132% increase in the odds of ASV experiences for any one-unit change in CSA. However, dissociation was not statistically related to ASV and did not moderate the relationship between CSA and ASV.

Table 4.5
Logistic Regression Analysis of Age, CSA, Dissociation, and CSA-Dissociation Interaction Variable as Predictors

Predictors	*B*	Wald	*p*	Odds Ratio	95% Confidence Interval
Predicting ASV (N= 178)					
Age	.38	21.37	.000	1.46	1.24, 1.71
CSA	.84	5.80	.016	2.32	1.17, 4.62
Dissociation	.11	1.20	.27	1.12	.92, 1.37
CSAxxDES	-.17	.96	.33	.85	.61, 1.18

Note: CSA is child sexual abuse, ASV is adult sexual victimization, and CSAxxDES is the interaction variable consisting of the standardized variables of CSA and dissociation

4.6 Hypothesis 4

A test of the full model with CSA, age, hyperarousal, dissociation, a two-way interaction consisting of hyperarousal and CSA, a two-way interaction consisting of dissociation and CSA, and a three-way interaction consisting of hyperarousal, dissociation, and CSA as predictors against a constant only model was statistically significant $\chi^2(7, 178) = 35.8$, $p < .001$, indicating that the model, as a whole, reliably distinguished between women with and without experiences of ASV. Table 4.6 shows regression coefficients, Wald Statistics, odds ratios, and 95% confidence intervals for odds ratios for each predictor. According to the Wald criterion, age was positively related to ASV experiences, $\chi^2(1, 178) = 18.25$, $p < .001$. Further, results indicated

that CSA showed a marginally significant positive relationship to ASV experiences $\chi^2(1, 178) = 3.13$, $p < .08$. The odds ratio for age, *OR*= 1.43, odds are 95% CI [1.21, 1.69], indicates that there is a 43% increase in the odds of ASV experiences for any one-unit change in age. The odds ratio for CSA, *OR*= 2.1, odds are 95% CI [.92, 4.79], indicates that there is a 110% increase in the odds of ASV experiences for every one-unit of change in CSA. Results indicate that when controlling for age and CSA, the interaction between the standardized variables of hyperarousal and CSA, the interaction between the standardized variables of dissociation and CSA, and the three-way interaction between the standardized variables of hyperarousal, dissociation, and CSA, hyperarousal are not significantly related to ASV experiences. Further, the inclusion of these three additional variables in the model, weakens the significant positive relationship between CSA and ASV.

Table 4.6
Logistic Regression Analysis of Age, CSA, Hyperarousal Dissociation, and Three Way Interaction Variable Consisting of CSA, Dissociation, and Hyperarousal as Predictors

Predictors	*B*	Wald	*p*	Odds Ratio	95% Confidence Interval
Predicting ASV (N= 178)					
Age	.36	18.25	.000	1.43	1.21, 1.69
CSA	.74	3.13	.077	2.09	1.02, 4.24
Hyperarousal	.36	1.99	.16	1.43	.87, 2.34
Dissociation	-.04	.06	.81	.94	.72, 1.29
CSAxxHyperarousal	-.21	.66	.42	.81	.40, 1.35
CSAxxDES	-.03	.01	.92	.97	.56, 1.68
CSAxxHyperarousalxxDES	-.01	.00	.98	1.00	.72, 1.37

Note: CSA is child sexual abuse, ASV is adult sexual victimization, CSAxxHyperarousal is the interaction variable consisting of the standardized variables of CSA and hyperarousal, CSAxxDES is the interaction variable consisting of the standardized variables of CSA and dissociation, and CSAxxHyperarousalxxDES is the interaction variable consisting of standardized variables of CSA, hyperarousal, and dissociation

CHAPTER V

DISCUSSION

5.1 Conclusion

The purpose of the present study was to examine how childhood sexual abuse (CSA), hyperarousal symptoms, and dissociation symptoms are associated with sexual revictimization in adulthood. The study supported the hypothesis one, that a history of CSA was associated with greater instances of adult sexual revictimization (ASV). Contrary to the hypotheses two, hyperarousal symptoms were associated with greater instances of ASV overall and did not moderate the relationship between CSA and ASV. Further, there was no support for hypothesis three, as dissociative symptoms were not associated with ASV overall and did not moderate the relationship between CSA and ASV. Finally, there was no support for hypothesis four, as the moderating variables for hyperarousal, dissociation, and the three-way interaction of CSA, hyperarousal, and dissociation were all insignificant.

Age was positively significantly related to ASV in all models. Due to the young age of our sample size, 18 to 25, this is to be expected as those who are younger have had less time to be victimized within adulthood. The average respondent to this survey was 21 (M= 21.23), indicating that the average respondent has only been in the adult period in the lifespan for roughly three years. Unfortunately, with an adult sample size including a greater age range it would be

expected that instances of ASV would increase with age (Messman-Moore & Long, 2003).

The findings from this study of young adult females support the link between childhood sexual abuse and revictimization in adulthood, with odds of experiencing ASV increasing approximately 151% for those individuals who have a history of CSA. This supports the consistent findings that CSA is predictive of adult sexual revictimization (Messman & Long, 1995). There was the unexpected finding that upon including a two-way interaction consisting of standardized variables of CSA and hyperarousal, another two-way interaction consisting of standardized variables of CSA and dissociation, and a three-way interaction consisting of standardized variables of CSA, hyperarousal, and dissociation, CSA was only marginally positively related to ASV. However, this weakening of the relationship between CSA and ASV may be due to significant correlations among CSA and the interaction variables included in the model competing for significance.

The findings in this study do not support the hypothesis that hyperarousal will buffer the relationship between CSA and ASV. Correlational analyses showed that hyperarousal had a weak positive correlation among hyperarousal and ASV, indicating that hyperarousal symptoms were related to greater instances of ASV. Further, logistic regression analyses indicated that there was a marginally significant relationship between hyperarousal and ASV, indicating that hyperarousal symptoms were marginally associated with higher rates of ASV. These findings are consistent with the literature that suggests PTSD symptoms are associated greater instances of sexual victimization (Yeater et al., 2016). Contrary to the hypothesis that hyperarousal symptoms would be associated with lower rates of adult sexual revictimization, correlational analyses showed a weak positive correlation between hyperarousal and

revictimization, indicating that hyperarousal symptoms were related to greater instances adult sexual revictimization. Further, logistic regression analyses did not show a significant moderating effect for the interaction of standardized variables of CSA and hyperarousal, thus indicating that hyperarousal symptoms do not moderate the relationship between CSA and ASV. This is not to suggest that Wilson and colleagues' (1999) findings that hyperarousal symptoms are associated with a greater ability to recognize risk in survivors of CSA are an anomaly. Recognizing risk and responding to risk are two different things. For example, Becker-Lausen and colleague's (1995) findings that hyperarousal predicted greater ASV severity in survivors of CSA due to an impairment in ability to recognize credible threats indicates that although those with hyperarousal symptoms may be able to accurately discriminate between credible and noncredible threats and they may not be able to appropriately response in turn. More research is needed about the specific role hyperarousal and risk recognition have in sexual victimization.

The findings in this study do not support the hypothesis that dissociation with exacerbate the relationship between CSA and ASV. Correlational analyses indicated that dissociation was weakly correlated with victimization overall, supporting the findings that dissociation is associated with increased sexual victimization (Bockers et al., 2014). However, correlational analyses showed that dissociation was not correlated with ASV, thus indicating dissociative symptoms were not related to ASV. Further, logistic regression analyses indicated that dissociation was not significantly related to ASV, thus indicating that dissociative symptoms were not associated with higher rates of ASV. Contrary to the hypothesis that dissociative symptoms would be associated with higher rates of adult sexual revictimization, correlational analyses showed that dissociation was not correlated with revictimization, thus indicating that

dissociative symptoms were not associated with ASV. These findings are consistent with Kessler and Bieschke's (1999) findings that dissociation did not predict sexual revictimization in women who had experiences of CSA. Further, logistic regression analyses did not show a significant moderating effect for the interaction of standardized variables of CSA and dissociation, thus indicating that dissociation did not moderate the relationship between CSA and ASV. This finding is consistent with Sandburg, Marotin, and Lynn's (1999) findings that although PTSD symptomatology as a whole had a moderating effect on the relationship between CSA and ASV, dissociation did not moderate this relationship. Conversely, these findings run in contrast with Bockers and colleagues' (2014) findings that pathological dissociation was able to predict between revictimized and non-victimized individuals It's important to note, however, that this was not a highly pathological sample. The mean level of dissociation (M= 21.70, SD= 17.2) in this sample was lower than that of a PTSD population (M = 31), thus this sample did not reach the level of pathological dissociation and may not be representative of the effects of dissociation on sexual revictimization (Carlson & Putnam, 1993). Further, Becker-Lausen et al., (1995) found that dissociation mediated the relationship between CSA and ASV, thus performing another study where mediation is appropriate might provide more information about dissociation's role in the relationship between CSA and ASV.

The findings in this study do not support the hypothesis that in including both hyperarousal and dissociation symptoms in the model, hyperarousal symptoms will buffer the relationship between CSA and sexual revictimization, whereas dissociation will exacerbate this relationship. Correlational analyses did not show a significantly positive relationship among dissociation and revictimization, thus indicating that dissociation was not related to greater instances of revictimization in survivors of

CSA. Further, correlational analyses showed a weak positive correlation among hyperarousal and ASV, thus indicating that hyperarousal was related to greater instances of revictimization in survivors of CSA. Logistic regression analyses did not show a significant moderating effect for the interaction of standardized variables of CSA, hyperarousal, and dissociation, thus indicating that hyperarousal and dissociation did not moderate the relationship between CSA and ASV. Further, this study did not support Bremner's (1999) theory that there were two distinct subtypes of acute-stress, one primarily dissociative and one primarily intrusive/hyperaroused as hyperarousal and dissociation were moderately correlated. This study did find that differing PTSD symptoms may be related to different outcomes as Soler-Baillo and colleagues (2005) suggested, however, not in the way that Bremner (1999) suggested, as hyperarousal was marginally associated with greater instances of ASV, whereas dissociation was not significantly associated with ASV. However, as previously stated, this was not a pathologically dissociative sample, thus findings with a more dissociative sample might yield different results.

5.2 Limitations

There are a number of limitations to this study. The sample of young adult females are relatively young (M = 21.23) and may not be representative of ASV and revictimization instances of the general population. In terms of PTSD symptomatology, only hyperarousal and dissociation were examined in this study, thus it is indeterminate what effects other symptomatology (e.g., intrusion symptoms, avoidance) may have on victimization. Due the retrospective accounts of victimization experiences collected in this study, no causal statements can be made. Thus, it is indeterminate whether the PTSD symptomatology were predictive to instances of revictimization or if they are resultant of accumulative victimization.

Additionally, many women in this study were unable to accurately assess precisely how many victimization experiences they had in childhood due to the retrospective nature of the study, thus other means of data collection could lead to more accurate reporting. Further, other traumatic life events (e.g., car accidents, street violence, other forms of abuse) were not measured, and thus may have affected hyperarousal and dissociation. Furthermore, the role of dissociation in ASV and revictimization may be underestimated in this study because of the reported a level of dissociative symptomatology that did not meet pathological levels (M = 21.7 compared to 31) rate in this high-functioning sample. More research is needed on a more representative sample of the general population with various methods of data collection.

5.3 Future Directions

Future research should implement a longitudinal design collecting measures of differing PTSD symptomatology, and victimization experiences, including nonsexual victimization experiences, in order to establish a causal relationship between experiences CSA, ASV, and PTSD symptomatology. A study including all of these elements will allow us to make a more causal inference about the role of hyperarousal and dissociation on the relationship between CSA and ASV and employ different statistical analyses. Further, future research should evaluate both the ability to recognize risk and accurately response to a credible threat in order to further study the relationship between hyperarousal and sexual revictimization. Thus, a future study might evaluate response latencies to vignettes of sexual assault of those who with those with both hyperarousal and dissociation and use response latency to predict victimization, similar to the work done by Wilson and colleagues (1999) in looking at risk recognition and hyperarousal.

In regards to clinical implications of the research, this study again establishes a link between CSA and ASV. Thus, interventions must be researched and put in place in order to decrease the relationship between CSA and ASV. Although hyperarousal did not moderate the relationship between CSA and ASV, hyperarousal symptoms trended toward significance in relation to ASV and was positively correlated with both revictimization and cumulative ASV victimization experiences. Thus, this may have clinical implications for rape prevention programs that are tailored to target hyperarousal symptoms, such as identifying credible and noncredible threats and teaching appropriate responding techniques, may lower instances of ASV in those who do not have experiences of CSA. However, clearer evidence points towards tried and true practices in rape prevention programs such as ecological risk reduction strategies (e.g., safe drinking habits, sexual safety), rape awareness, and self-defense (Valdiutu, Martin, & May, 2011). In discussing the prevention of sexual violence, it's important to note those who have been victimized by sexual violence are never at fault for their victimization and that rape prevention programs should also be geared at reducing the perpetration of sexual violence. Finally, this study indicates that psychological interventions specifically targeting differing hyperarousal and dissociative symptoms may not have efficacy in reducing the risk of sexual revictimization, however that is to be taken injunction with the limitations previously stated.

References

American Psychiatric Association. (2013) Diagnostic and statistical manual of mental disorders, (5th ed.). Washington, DC: Author.

Alexander, P.C. & Lupfer, S.L. (1987). Family characteristics and long-term consequences associated with sexual abuse. *Archives of Sexual Behavior, 16*(3), 235-245.

Arata, C. M. (1999). Coping with rape the roles of prior sexual abuse and attributions of blame. *Journal of Interpersonal Violence, 14*(1), 62-78. doi:10.1177/088626099014001004

Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychology, 55*(5), 469-480.

Becker-Lausen, E., Sanders, B., & Chinsky, J.M. (1995). Mediation of abusive childhood experiences: Depression, dissociation, and negative life outcomes. *American Journal of Orthopsychiatry, 65,* 560–573.

Bernstein, E. M., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *The Journal of Nervous and Mental Disease, 174*, 727–735.

Berthelot, N., Godbout, N., Hébert, M., Goulet, M., & Bergeron, S. (2013). Online prevalence and correlates of childhood sexual abuse in adults consulting for sex therapy. Journal of Sex and Marital Therapy, http://dx.doi.org/10.1080/0092623X.2013.772548

Bockers, E., Roepke, S., Michael, L., Renneberg, B., & Knaevelsrud, C. (2014). Risk recognition, attachment anxiety, self-efficacy, and state dissociation predict revictimization. *Plos ONE, 9*(9), 1-9. doi:10.1371/journal.pone.0108206

Boisvert, I., Marc, T., Lanctot, N., & Lemieux, L. (2016). Differentiating sexually

Aggressive and non-sexually aggressive child sexual abuse survivors: The role of adjustment, emotions, and cognitions. *Revue de Psychoeducation, 45*(1), 173-207.

Breiding, M.J., Smith, S.G., Basile, K.C., Walters, M.K., Chen, J., & Merrick, M.J. (2011). Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization — National intimate partner and sexual violence survey, United States, 2011. *Surveillance Summaries, 63*, 1-18.

Breitenbecher, K.H. (2001). Sexual revictimization among women: A review of the literature focusing on empirical investigations. *Aggression and Violent Behavior, 6*, 415-432.

Bremner, D. (1999). Acute and chronic responses to psychological trauma: Where do we go from here? *Journal of American Psychiatry, 156*(3), 349-351.

Bremner JD & Brett E. (1997) Trauma-related dissociative states and long-term psychopathology in posttraumatic stress disorder. *J Trauma Stress, 10*, 37–50.

Bremner JD, Southwick S, Brett E, Fontana A, Rosenheck R, & Charney DS (1992). Dissociation and posttraumatic stress disorder in Vietnam combat veterans. *Am J Psychiatry, 149*, 328–332

Brenick, A., Flannery, K.M., & Rankin, E. (2017). Victimization or entertainment? How attachment and rejection sensitivity relate to sexting experiences, evaluations, and victimization. Wright, M. (Eds.), Identity, Sexuality, and Relationships among Emerging Adults in the Digital Age. DOI: 10.4018/978-1-5225-1856-3.ch013

Briere, J. & Runtz, M. (1993). Child sexual abuse: Long-term sequelae and implications for psychological assessment. *Journal of Interpersonal violence, 8*(3), 312-330.

Briere, J., Runtz, M., Eadie, E., Bigras, N., & Godbout, N. (2017). Disengaged parenting: Structural equation modeling with child abuse, insecure attachment, and adult symptomatology. *Child Abuse & Neglect, 67*, 260-270.

Briere, J. & Runtz, M. (1988). Symptomatology associated with childhood sexual victimization in a non-clinical adult sample. *Child Abuse & Neglect, 12*, 51-59.

Browne, A., & Finkelhor, D. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin, 99*(1), 66-77.

Canton-Cortes, D., Canton, J., Justicia, F., & Cortes, R. (2011). A model of the effects Of child sexual abuse on post-traumatic stress: The mediating role of attributions of blame and avoidance coping. *Psicothema, 23*(1), 66-73.

Carlson, E. B., Putnam, F. W., Ross, C. A., Torem, M., Coons, P., Dill, D. L., … Braun, B.G. (1993). Validity of the Dissociative Experiences Scale in screening for multiple personality disorder: A multicenter study. *American Journal of Psychiatry, 150*, 1030–1036.

Cloitre M, Scarvalone P, Difede J (1997) Posttraumatic stress disorder, self- and interpersonal dysfunction among sexually retraumatized women. J*ournal of Traumatic Stress, 10*, 437–452.

Condon, L. P., & Lynn, S. J. (2014). State and trait dissociation: Evaluating convergent and discriminant validity. *Imagination, Cognition and Personality, 34*(1), 25–37. https://doi.org/10.2190/IC.34.1.c

Cortina, L.M. & Kubiak, S.P. (2006). Gender and posttraumatic sex: Sexual violence as an explanation for women's increased risk. *Journal of Abnormal Psychology, 115*(4), 753-759.

DOI: 10.1037/0021-843X.115.4.753

Cyr, C., Euser, E., Bakermans-Kranenburg, M., & Van Ijzendoorn, M. (2010). Attachment security and disorganization in maltreating and high-risk families: A series of meta-analyses. Development and Psychopathology, 22, 87–108

Dalenberg, C. J., Brand, B. L., Gleaves, D. H., Dorahy, M. J., Loewenstein, R. J., Cardeña, E., . . . Spiegel, D. (2012). Evaluation of the evidence for the trauma and fantasy models of dissociation. *Psychological Bulletin, 138*(3), 550-588.

Dancu, C., Riggs, D., & Hearst-Ikeada, D., Shoyer, B., & Foa, E. (1996). Dissociative experiences and posttraumatic stress disorder among female victims of criminal assault and rape. *Journal of Traumatic Stress, 9*(2), 253-267.

Davila, J., Mattanah, J., Bhatia, V., Latack, J. A., Feinstein, B. A., Eaton, N. R., & ... Zhou, J. (2017). Romantic competence, healthy relationship functioning, and well-being in emerging adults. *Personal Relationships*, (1), 162. doi:10.1111/pere.12175

Espeleta, H.C., Palasciano-Barton, S., & Messman-Moore, T.L. (2016). The impact of child abuse severity on adult attachment anxiety and avoidance in college women: The Role of Emotion Dysregulation. *Journal of Family Violence, 32*, 399-407.

Fargo, J. D. (2009). Pathways to adult sexual revictimization: Direct and indirect behavioral risk factors across the lifespan. *Journal of Interpersonal Violence, 24*(11), 1771-1791. doi:10.1177/0886260508325489

Feiring, C., Taska, L., & Lewis, M. (2002). Adjustment following sexual abuse discovery: The role of shame and attribution style. *Developmental Psychology, 8*(1), 79-92.

Field NP, Classen C, Butler LD, Koopman C, Zarcone J, et al. (2001).

Revictimization and information processing in women survivors of childhood sexual abuse. *Journal of Anxiety Disorders, 15,* 459–469.

Finkelhor, D. (1997). The victimization of children and youth: Developmental victimology. In R. C. Davis, A. J. Lurigio, & W. G. Skogan (Eds.), Victims of crime (2nd ed., pp. 86-107). Thousand Oaks, CA: Sage.

Finkelhor, D. & Browne, A. (1985). The traumatic impact of child sexual abuse: A conceptualization. *American Journal of Orthopsychiatry, 55*(4), 530-541.

Finkelhor, D., Shattuck, A., Turner, H.A., Hamby, S.L. (2014). The lifetime prevalence of child sexual abuse and assault assessed in late adolescence. *Journal of Adolescent Health,* 1-5.

Follette, V., Poulsny, M., Bechtle, A., & Naugle, A. (1996). Cumulative trauma: The impact of child sexual abuse, adult sexual assault, and spouse abuse. *Journal of Traumatic Trauma, 9*(1), 24-25.

Frewen, P. A., Brown, M. F. D., Steuwe, C., & Lanius, R. A. (2015). Latent profile analysis and principal axis factoring of the DSM-5 dissociative subtype. European Journal of Psychotraumatology, 6. http://doi.org/10.3402/ejpt.v6.26406

Fromouth, M.E. (1986). The relationship of childhood sexual abuse with later psychological and sexual adjustment in a sample of college women. *Childhood Abuse and Neglect, 10*(1), 5-15.

Gibb, B.E. (2004). Childhood maltreatment and negative cognitive styles: A quantitative and qualitative review. *Clinical Psychology Review, 22*(2), 223-246. https://doi.org/10.1016/S0272-7358(01)00088-5

Gidycz, C.A., McNamara, J.R., & Edwards, K.M. (2006). Women's risk perception

and sexual victimization: A review of the literature. *Aggression and Violent Behavior, 11,* 441-456

Godbout N., Briere J., Sabourin S., Lussier Y. (2014) Child sexual abuse and subsequent relational and personal functioning: The role of parental support. *Child Abuse & Neglect,* (2), 317.

Gold, E. (1986). Long-term effects of sexual victimization in childhood: An attributional approach. *Journal of Consulting and Clinical Psychology, 54*(4), 471-475.

Gold, S., Sinclair, B., & Balge, K. (1999). Risk of sexual revictimization: A theoretical model. *Aggression and Violent Behavior, 4*(4), 457-470.

Gold SD (2008) Potential mediators of sexual assault risk recognition among women with histories of childhood sexual abuse. *Dissertation Abstracts International: Section B: The Science and Engineering: 69,* 61-B..

Hall, GCN, DeGarmo, DS, Eap, S, Teten, AL, & Sue, S. (2006). Initiation, desistance, and persistence of men's sexual coercion. *Journal of Consulting and Clinical Psychology, 74,* 732–742. doi:10.1037/0022-006X.74.4.732.

Hayes, A. F., & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behavior Research Methods, 41,* 924-936.

Hendricka, C. (1995). Sexually aggressive children and societal response. *Child Survivors and Perpetrators of Sexual Abuse.*

Howells, K. (1995). Childhood sexual abuse: Finkelhor's precondition model revisited. *Psychology, Crime, & Law, 1*(3), 201-214.

Iverson KM, Litwack SD, Pineles SL, Suvak MK, Vaughn RA, et al. (2013)

Predictors of intimate partner violence revictimization: The relative impact of distinct PTSD symptoms, dissociation, and coping strategies. *Journal of Traumatic Stress 26*, 102–110.

Jankowski, M., Lientenberg, H., Henning, ., & Coffey, P. (2002). Parental caring as a possible buffer against sexual revictimization in young adult survivors of child sexual abuse. *Journal of Traumatic Stress, 3,* 235.

Jaremka LM, Glaser R, Loving TJ, Malarkey WB, Stowell JR, et al. (2013) Attachment anxiety is linked to alterations in cortisol production and cellular immunity. *Psychological Science, 24,* 272–279.

Kendall-Tackett, K.A., (2000). Physiological correlates of childhood abuse: Chronic hyperarousal symptoms in PTSD, depression, and irritable bowel syndrome. *Child Abuse and Neglect, 24*(6), 799-810.

Kessler, B.L. & Bieschke, K.J. (1999). A retrospective analysis of shame, dissociation, and adult victimization in survivors of childhood sexual abuse. *Journal of Counseling Psychology, 46*(3), 335-341.

King, D. W., Leskin, G. A., King, L. A., & Weathers, F. W. (1998). Confirmatory factor analysis of the clinician-administered PTSD Scale: Evidence for the dimensionality of posttraumatic stress disorder. *Psychological Assessment, 10*(2), 90-96. doi:10.1037/1040-3590.10.2.90

Koopman, C, Classen, C, Spiegel, D (1994). Predictors of posttraumatic stress symptoms among survivors of the Oakland/Berkeley, Calif, firestorm. *Am J Psychiatry, 151,* 888–894.

Koss, M.P. Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., Ullman, S.,

West, C., &White, J. (2006). The Sexual Experiences Long Form Victimization (SES-LFV). Tucson, AZ: University of Arizona.

Layman, M.J., Gidycz, C.A., & Lynn, S.J. (1996). Unacknowledged versus acknowledged rape victims: Situational factors and posttraumatic stress. *Journal of Abnormal Psychology, 105*(1), 124-131.

Littleton, H.L., Grills, A.E., & Drum, K.B. (2014). Predicting risky sexual behavior in emerging adulthood: examination of a moderated mediation model among child sexual abuse and adult sexual assault victims. *Violence and Victims, 29*, 981-998.
DOI:10.1891/0886-6708.VV-D-13-00067

Littleton, H., & Ullman, S. E. (2013). PTSD symptomatology and hazardous drinking as risk factors for sexual assault revictimization: examination in European American and African American women. *Journal of Traumatic Stress, 26*(3), 345-353.
doi:10.1002/jts.21807

Malle, B. (2011). Attribution theories: How people make sense of behavior. In D. Chadee (Ed.), *Theories in social psychology* (pp. 72-95). : Wiley-Blackwell.

Marmar, CR, Weiss DS, Schlenger, WE, Fairbank, JA, Jordan, BK, Kulka, RA, & Hough, RL. (1994). Peritraumatic dissociation and posttraumatic stress in male Vietnam theater veterans. *Am J Psychiatry, 151*, 902–907.

Marx B.P. & Gross A.M. (1995) Date rape: An analysis of two contextual variables. *Behavior Modification 19*, 451–463.

Matta Oshima, K.M., Jonson-Reid , M., & Seay, K.D. (2014) The influence of childhood sexual abuse on adolescent outcomes: The roles of gender, poverty, and revictimization, *Journal of Child Sexual Abuse, 23*:4, 367-386, DOI:

10.1080/10538712.2014.896845

Mayall, A. & Gold, S. (1995). Definitional issues and mediating variables in the sexual revictimization of women sexually abused as children. *Journal of Interpersonal Violence, 10*(1), 26-42.

Mazzotti, E., Farina, B., Imperatori, C., Mansutti, F., Prunetti, E., Speranza, A.M., Barbaranelli, C. (2016). Is the Dissociative Experiences Scale able to identify detachment and compartmentalization symptoms? Factor structure of the Dissociative Experiences Scale in a large sample of psychiatric and nonpsychiatric subjects. *Neuropsychiatric Disease and Treatment, 1*, 1295-1302.

McLeer, S., Deblinger, E., Henry, D., & Orvaschel, H. (1992). Sexually abused children at high risk for post-traumatic stress disorder. *Child & Adolescent Psychiatry, 31*(5), 875-879.

Messman-Moore, T. & Brown, A., (2006). Risk perception, rape, and sexual Revictimization: A prospective study of college women. *Psychology of Women Quarterly, 30,* 159-172.

Messman-Moore, T. & Long, P.J. (2000). Child sexual abuse and revictimization in the form of adult sexual abuse, adult physical abuse, and adult maltreatment. *Journal of Interpersonal Violence, 15*(5), 489-502.

Messman-Moore, T. L., & Long, P. J. (2003). The role of childhood sexual abuse sequelae in the sexual revictimization of women. *Clinical Psychology Review, 23*(4), 537-571. doi:10.1016/S0272-7358(02)00203-9

Messman-Moore, T., Ward, R.M., & Brown, A. (2009). Substance use and PTSD symptoms impact the likelihood of rape and revictimization in college women.

Journal of Interpersonal Violence, 24(3), 499-521.

Messman, T.L., & Long, P.J. (1996) Child sexual abuse and its relationship to revictimization in adult women: A review. *Clinical Psychology Review, 16*, 397-420.

Mikulincer, M. & Shaver, P. (2005). Attachment theory and emotions in close relationships: Exploring the attachment-related dynamics of emotional reactions to relational events. *Personal Relationships, 12,* 149-168.

Mikulincer, M. & Shaver, P. (2007). *Attachment in adulthood: Structure, dynamics, and Change.* New York, NY: Guilford Press.

Muehlenhard, C. L., Highby, B. J., Lee, R. S., Bryan, T. S., & Dodrill, W. A. (1998). The sexual revictimization of women and men sexually abused as children: A review of the literature. *Annual Review of Sex Research, 9*(1), 177.

Neilson, E.C., Bird, E.R., Metzger, I.W., George, W.H., Norris, J., & Gilmore, A.K. (2018). Understanding sexual assault risk perception in college: Associations among sexual assault history, drinking to cope, and alcohol use. *Addictive Behaviors, 78,* 178-186.

Patihis, L. & Lynn, S.J. (2017). Psychometric comparison of Dissociative Experiences Scales II and C: A weak trauma-dissociation link. *Applied Cognitive Psychology, 31*, 392–403.

Reese-Weber, M. & Smith, D.M. (2011) Outcomes of child sexual abuse as predictors of later sexual victimization. *Journal of Interpersonal Violence, 26,* 1884–1905

Risser, H.J., Hetzel-Riggin, M.D., Thomsen, C.J., & McCanne, T.R. (2006). PTSD as a mediator of sexual revictimization: The role of re-experiencing, avoidance, and arousal symptoms. *Journal of Traumatic, 19*(5), 687-698.

Russell, D.E.H. (1983). The incidence and prevalence of intrafamilial and extrafamilial sexual abuse of female children. *Child Abuse & Neglect, 7*, 133-146.

Sandburg, D.A., Matorin, A.I., & Lynn, S.J. (1999). Dissociation, posttraumatic stress, and sexual revictimization a prospective examination of mediator and moderator effects. *Journal of Traumatic Stress, 12*(1), 127–138.

Sandburg, D.A., Valdez, C.E., Engle, J.L., & Menghrajani, E. (2016). Attachment anxiety as a risk factor for subsequent intimate Partner violence victimization: A 6-Month prospective study among college women. *Journal of Interpersonal Violence,* [E-pub ahead of print] https://doi.org/ 10.1177/0886260516651314

Schulenberg J, Zarrett NR. Mental health during emerging adulthood: Continuity and discontinuity in courses, causes, and functions. In: Arnett JJ, Tanner JL, editors. Emerging adults in America: Coming of age in the 21st century. American Psychological Association; Washington DC: 2006. pp. 135–172. doi: 10.1037/11381-006.

Shalev, AY, Peri, T, Canetti, L, & Schreiber, S (1996). Predictors of PTSD in injured trauma survivors: a prospective study. *Am J Psychiatry, 153,* 219–225.

Siegel, J. & Williams, L., (2003). Risk factors for sexual victimization of women. *Violence Against Women, 9*(8), 902-930.

Silberg, J.L. (2000). Fifteen years of dissociation in maltreated children: Where do we go from here?. *Child Maltreatment, 5*(2), 119-136.

Steel, J., Sanna, L., Hammond, B., Whipple, J., & Cross, H. (2004). Psychological sequelae of childhood sexual abuse: abuse-related characteristics, coping strategies, and attributional style. *Child Abuse & Neglect, 28*(7), 785-801.

https://doi.org/10.1016/j.chiabu.2003.12.004

Sveen, J., Bondjers, K., & Willebrand, M. (2016). Psychometric properties of the PTSD Checklist for DSM-5: A pilot study. *European Journal of Psychotraumatology, 7*.
DOI: 10.3402/ejpt.v7.30165

Townsend, C. & Rheingold, A.A. (2013). *Estimating a child sexual abuse prevalence rate for practitioners: A review of child sexual abuse prevalence studies*. Charleston, S.C.,Darkness to Light. Retrieved from www.D2L.org/1in10.

Tremblay, C., Hébert, M., & Piché, C. (2000). Type I and type II posttraumatic stress disorder in sexually abused children. *Journal of Child Sexual Abuse: Research, Treatment, & Program Innovations for Victims, Survivors, & Offenders, 9*(1), 65-90.
doi:10.1300/J070v09n01_05

Trickett, P. K., Noll, J. G., & Putnam, F. W. (2011). The impact of sexual abuse on female development: Lessons from a multigenerational, longitudinal research study. Development and Psychopathology, 23(2), 453–476.
doi:10.1017/S0954579411000174

Valle, L.A. & Silovsky, J.F. (2002) Attributions and adjustment following childhood sexual and physical abuse. *Child Maltreatment, 7*(1), 9-25.

VanZile-Tamsen C, Testa M, Livingston JA (2005) The impact of sexual assault history and relationship context on appraisal of and responses to acquaintance sexual assault risk. *Journal of Interpersonal Violence 20*, 813–832.

Volkert, J., Randjbar, S., Mortiz, S., & Jelinek, L. (2013). Risk recognition and sensation seeking in revictimization and Post Traumatic Stress Disorder. *Behavior Modification, 37*(1), 39-61.

Wilson, A. E., Calhoun, K. S., & Bernat, J. A. (1999). Risk recognition and trauma-related symptoms among sexually revictimized women. *Journal of Consulting and Clinical Psychology*, *67*(5), 705-710.

Witt, T.H. & Kendra, R. (2009). Risk recognition and intimate partner violence. *Journal of Interpersonal Violence, 25*(12), 2199-2216.

Wolfe, V.V., Gentile, C., & Wolfe, D.A. (1989) The impact of sexual abuse on children: A PTSD formulation. *Behavior Therapy, 20*, 215-228.

Wyatt, G.E. & Peters, S.D. (1986). Issues in the definition of child sexual abuse in prevalence research. *Child Abuse & Neglect, 10*(2), 231-240.

Yeater, E. A., Hoyt, T., Leiting, K. A., & Lopez, G. (2016). Association between sexual victimization history, posttraumatic stress symptoms, and women's decision makin in risky social situations: The moderating effect of ethnicity. *Journal of Psychopathology and Behavioral Assessment, 38*(4), 666-680. doi:10.1007/s10862-016-9557-7

Zoeller, L.A., Goodwin, M.L., & Foa, E.B. (2000). PTSD severity and health perceptions in female victims of sexual assault. *Journal of Traumatic Stress, 13*(4), 635-649.

Zweig, J., Sayer, A., Crockett, L., & Vicary, J., (2002). Adolescent risk factors for sexual victimization: A longitudinal analysis of rural women. *Journal of Adolescent Research, 17*(6), 586-602).

Appendix A

Department of Psychology

Mental Health and Sexual Victimization

* 2. What is your gender?

- Female
- Male

3. What is the highest level of school that you have completed?

- Some high school, but no diploma
- High school diploma (or GED)
- Some college, but no degree
- 2-year college degree
- 4-year college degree
- None of the above

* 4. What is your age?

- Less than 18
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- Greater than 25

3

5. Which race best describes you? (Please choose only one.)

- American Indian or Alaskan Native
- Asian / Pacific Islander
- Black or African American
- Multiple ethnicity / Other (please specify)
- Hispanic
- White / Caucasian

Appendix B

PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

Appendix C

Dissociative Experiences Scale - II

Instructions: This questionnaire asks about experiences that you may have in your daily life. We are interested in how often you have these experiences. It is important, however, that your answers show how often these experiences happen to you when you **are not** under the influence of alcohol or drugs. To answer the questions, please determine to what degree each experience described in the question applies to you, and circle the number to show what percentage of the time you have the experience.

For example: 0% (Never) 10 20 30 40 50 60 70 80 90 100% (Always)

There are 28 questions. These questions have been designed for adults. Adolescents should use a different version.

Disclaimer: This self-assessment tool is not a substitute for clinical diagnosis or advice.

1. Some people have the experience of driving or riding in a car or bus or subway and suddenly realizing that they don't remember what has happened during all or part of the trip. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

2. Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

3. Some people have the experience of finding themselves in a place and have no idea how they got there. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

4. Some people have the experience of finding themselves dressed in clothes that they don't remember putting on. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

5. Some people have the experience of finding new things among their belongings that they do not remember buying. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

6. Some people sometimes find that they are approached by people that they do not know, who call them by another name or insist that they have met them before. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

8. Some people are told that they sometimes do not recognize friends of family members. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

9. Some people find that they have no memory for some important events in their lives (for example, a wedding or graduation). Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

10. Some people have the experience of being accused of lying when they do not think that they have lied. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

11. Some people have the experience of looking in a mirror and not recognizing themselves. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

12. Some people have the experience of feeling that other people, objects, and the world around them are not real. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

13. Some people have the experience of feeling that their body does not seem to belong to them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

16. Some people have the experience of being in a familiar place but finding it strange and unfamiliar. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

18. Some people find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

19. Some people find that they sometimes are able to ignore pain. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

20. Some people find that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

21. Some people sometimes find that when they are alone they talk out loud to themselves. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

23. Some people sometimes find that in certain situations they are able to do things with amazing ease and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.). Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing that thing (for example, not knowing whether they have just mailed a letter or have just thought about mailing it). Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

25. Some people find evidence that they have done things that they do not remember doing. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

27. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

28. Some people sometimes feel as if they are looking at the world through a fog, so that people and objects appear far away or unclear. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

Total:

DES Score: ____
(Total divided by 28)